



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,676	07/12/2001	Bruce J. Barrett	SOM01-P329A	2249

277 7590 02/20/2003

PRICE HENEVELD COOPER DEWITT & LITTON  
695 KENMOOR, S.E.  
P O BOX 2567  
GRAND RAPIDS, MI 49501

EXAMINER

CADUGAN, JOSEPH A

ART UNIT PAPER NUMBER

3736

DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/807,676

Applicant(s)

BARRETT ET AL. *Ch*

Examiner

Joseph A. Cadugan

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-12,17-33,35 and 40-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-12,17-33,35 and 40-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 3736

## **DETAILED ACTION**

### ***Citation of Statutory Basis***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 33, 35, and 40-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 33 recites the limitation "said defined regions" in line 8. There is insufficient antecedent basis for this limitation in the claim. Also, claim 35 recites the limitation "said provided data sets" in line 1. There is insufficient antecedent basis for this limitation in the claim. This is merely an example of such a problem in the claims. Examiner requests that applicant thoroughly review the claims and correct any other such errors. This is merely an example of such a problem in the claims. Examiner requests that applicant thoroughly review the claims and correct any other such errors.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before

Art Unit: 3736

November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-7, 17-23, 32-33, 35, 40-46, 48-51, 55, and 57-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Al-Ali et al. (USP 6,334,065). Al Ali et al. teach a stereo pulse oximeter, having multiple sensor stations (110, 120, 130) applied to different parts of the body, each array having two emitters and a sensor. There is control and analysis circuitry (114, 124, 134, 150). There is also a display (180) showing multiple outputs for comparison (1664, 1666 in Fig. 16B). The sensors are run separately but concurrently, and data is displayed and compared for different parts of the body. There is also an area (1610) displaying quantified data (1622, 1632, 1624, 1634) and heartrate (1642). There are both red and infrared emitters (212, 214) for each detector (218). The different wavelength emitters are cycled (col. 6, Ins. 30-53). The data is buffered.

#### ***Claim Rejections - 35 USC § 103***

4. Claims 1, 9-12, 17 and 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chance (USP 5,987,351) in view of Al-Ali, as applied to the claims above. Chance teaches an optical emitter that is applied to both hemispheres of the brain separately (Fig. 7A). There are multiple emitters (73B, 73A) which use different wavelengths of light to illuminate different regions of the brain, and multiple detectors (76B, 76A) which pass signals to a spectrophotometer. There is to be no crossover between the emitter and detector sets on opposite sides of the skull; thus, the measurements of the separate hemispheres are kept separate. Chance explains that this embodiment is best used for imaging, but makes it clear that it is merely a more advanced model of the optical couplers used for tissue oximetry in other embodiments, and would therefore inherently be useable for such applications. Chance is silent on the peripherals of the device, such as the display used. Any suitable such peripheral devices could thus be used. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use the drive, analysis, and display devices of Al-Ali et al. with the emitter/detector arrays of Chance, as they would be useable together to great advantage to both Chance and Al-Ali et al., as the device of Chance

Art Unit: 3736

would allow the device of Al-Ali et al. to be used on the brain, of which it was previously incapable, and the device of Al-Ali et al. would provide the display and other peripheral equipment not taught by Chance.

5. Claim 47 is rejected under 35 U.S.C. 103(a) as obvious over Al-Ali et al., as applied to the claims above. Al-Ali et al. are silent on the limitation of refreshing the screen. However, examiner holds that this is so notoriously well-known in the art that the Al-Ali et al. device inherently carries out this function, but it is never mentioned in the specification. Screen refreshing is used in most modern displays, including EKGs, EEGs, radar displays, etc.. It would have been obvious to one of ordinary skill in the art at the time of the invention to refresh the screen of Lewis et al., as this technique is notoriously well-known in the art.

6. Claims 52-54, 56, and 59-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-Ali et al. as applied to the claims above, and further in view of Chance et al. (USP 5,853,370). Al-Ali et al. teach all of the limitations of the claimed invention except a keyboard user interface. Chance et al. shows a keyboard interface (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the keyboard interface taught by Chance et al. in the device of Al-Ali et al., as this would provide the device the added advantage of user input to the device during use on a test subject.

Al-Ali et al. also fail to teach having multiple detectors to an emitter at different distances from the emitter. Chance et al. teach the detectors sensing light from multiple sources to provide more accurate measurement data (Fig. 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple detector/multiple emitter array of Chance et al., as this would provide more accurate measurement, as taught by Chance et al.

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Erdman (USP 5,542,421) teaches an oximeter used on different parts of the body simultaneously.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 3736

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Response to Arguments***

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.


***Contact Information***

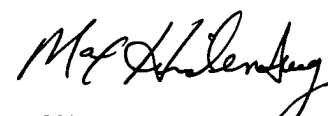
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph A. Cadugan whose telephone number is (703) 305-0879. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max F. Hindenburg can be reached on (703) 308-3130. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

Joseph A. Cadugan

  
February 12, 2003

  
**MAX F. HINDENBURG**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 3700**